



SEQUENCE LISTING

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<110> Cahoon, Edgar B

<120> A Cytochrome P450 enzyme associated with the synthesis of delta-12-epoxy fatty acids

<130> BB1465 US NA

<140> 09/909566

<141> 2001-07-20

<150> 60/219833

<151> 2000-07-21

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<170> Microsoft Office 97

<210> 1

<211> 1733

<212> DNA

<213> Euphorbia lagascae

<400> 1

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<210> 2

<211> 500

<212> PRT

<213> Euphorbia lagascae

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TECH CENTER 1600/2900

<400> 2

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Leu	Val	Leu	Ile	Leu	Val	Val	Val	Met	Arg	Leu	Trp	Lys	Lys	Gln	Asn	20	25	30	
Pro	Pro	Pro	Gly	Pro	Trp	Lys	Phe	Pro	Ile	Ile	Gly	Asn	Leu	Pro	His	35	40	45	
Leu	Leu	Leu	Thr	Ser	Asp	Leu	Gly	His	Glu	Arg	Phe	Arg	Ala	Leu	Ala	50	55	60	
Gln	Ile	Tyr	Gly	Pro	Val	Met	Ser	Leu	Gln	Ile	Gly	Gln	Val	Ser	Ala	65	70	75	80
Val	Val	Ile	Ser	Ser	Ala	Glu	Ala	Ala	Lys	Glu	Val	Met	Lys	Thr	Gln	85	90	95	
Ala	Asp	Ala	Phe	Ala	Gln	Arg	Pro	Ile	Val	Leu	Asp	Ala	Gln	Ile	Val	100	105	110	
Phe	Tyr	Asn	Arg	Lys	Asp	Val	Leu	Phe	Ala	Ser	Tyr	Gly	Asp	His	Trp	115	120	125	
Arg	Gln	Met	Lys	Lys	Ile	Trp	Ile	Leu	Glu	Phe	Leu	Ser	Ala	Lys	Lys	130	135	140	
Val	Gln	Ser	Ser	Arg	Leu	Ile	Arg	Glu	Glu	Glu	Met	Glu	Asp	Ala	Ile	145	150	155	160
Thr	Phe	Leu	Arg	Ser	Lys	Ala	Gly	Ser	Pro	Val	Asn	Ile	Thr	Lys	Ile	165	170	175	
Ile	Tyr	Gly	Ile	Ile	Ile	Ser	Ile	Met	Ile	Arg	Thr	Ser	Val	Gly	Asn	180	185	190	
Cys	Lys	Gln	Lys	Glu	Arg	Leu	Leu	Ser	Val	Ala	Asp	Ala	Val	Asn	Glu	195	200	205	
Ala	Ala	Thr	Ser	Phe	Gly	Thr	Ala	Asp	Ala	Phe	Pro	Thr	Trp	Lys	Leu	210	215	220	
Leu	His	Tyr	Ile	Ile	Gly	Ala	Glu	Ser	Lys	Pro	Arg	Arg	Leu	His	Gln	225	230	235	240
Glu	Ile	Asp	Asp	Ile	Leu	Glu	Glu	Ile	Leu	Asn	Glu	His	Lys	Ala	Asn	245	250	255	
Lys	Pro	Phe	Glu	Ala	Asp	Asn	Leu	Met	Asp	Val	Leu	Leu	Asn	Leu	Gln	260	265	270	
Lys	Asn	Gly	Asn	Val	Pro	Val	Pro	Val	Thr	Asn	Glu	Ser	Ile	Lys	Ala	275	280	285	
Ser	Val	Leu	Gln	Met	Phe	Thr	Ala	Gly	Ser	Glu	Thr	Thr	Ser	Lys	Ala	290	295	300	
Thr	Glu	Trp	Val	Met	Ala	Glu	Leu	Met	Lys	Asn	Pro	Thr	Glu	Leu	Arg	305	310	315	320

Lys Ala Gln Glu Glu Val Arg Gln Val Phe Gly Glu Met Gly Lys Val
 325 330 335
 Asp Glu Ser Arg Phe His Asp Leu Lys Phe Phe Lys Leu Val Val Lys
 340 345 350
 Glu Thr Leu Arg Leu His Pro Pro Val Val Leu Ile Pro Arg Glu Cys
 355 360 365
 Arg Glu Thr Thr Arg Ile Asp Gly Tyr Glu Ile His Pro Asn Thr Arg
 370 375 380
 Ile Val Val Asn Ala Trp Ala Ile Gly Arg Asp Pro Asn Thr Trp Ser
 385 390 395 400
 Glu Pro Gly Lys Phe Asn Pro Glu Arg Phe Lys Asp Cys Ala Ile Asp
 405 410 415
 Tyr Lys Gly Thr Thr Phe Glu Leu Val Pro Phe Gly Ala Gly Lys Arg
 420 425 430
 Ile Cys Pro Gly Ile Thr Ser Ala Ile Thr Asn Leu Glu Tyr Val Ile
 435 440 445
 Ile Asn Leu Leu Tyr His Phe Asn Trp Glu Leu Ala Asp Gly Ile Thr
 450 455 460
 Pro Gln Thr Leu Asp Met Thr Glu Ala Ile Gly Gly Ala Leu Arg Lys
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 Ser Asn Ile Ser
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 Pro Pro Gly Pro Trp Lys Leu Pro Phe Ile Gly Ser Leu His His Leu
 35 40 45
 Ala Val Ala Gly Pro Leu Pro His His Gly Leu Lys Asn Leu Ala Lys
 50 55 60
 Leu Tyr Gly Pro Leu Met His Leu Arg Leu Gly Glu Ile Pro Thr Val
 65 70 75 80
 Ile Ile Ser Ser Pro Arg Met Ala Lys Glu Val Leu Lys Thr His Asp
 85 90 95

Leu Ala Phe Ala Thr Arg Pro Lys Leu Val Val Ala Asp Ile Val His
 100 105 110
 Tyr Asp Ser Thr Asp Ile Ala Phe Ser Pro Tyr Gly Glu Tyr Trp Arg
 115 120 125
 Gln Ile Arg Lys Ile Cys Ile Leu Glu Leu Leu Ser Ala Lys Met Val
 130 135 140
 Lys Phe Phe Ser Ser Ile Arg Gln Asp Glu Leu Ser Met Met Val Ser
 145 150 155 160
 Ser Ile Arg Thr Met Pro Asn Phe Pro Val Asn Leu Thr Asp Lys Ile
 165 170 175
 Phe Trp Phe Thr Ser Ser Val Thr Cys Arg Ser Ala Leu Gly Lys Ile
 180 185 190
 Cys Arg Asp Gln Asp Lys Leu Ile Ile Phe Met Arg Glu Ile Ile Ser
 195 200 205
 Leu Thr Gly Gly Phe Ser Ile Ala Asp Phe Phe Pro Thr Trp Lys Met
 210 215 220
 Leu His Asp Val Gly Gly Ser Lys Thr Arg Leu Leu Lys Ala His Arg
 225 230 235 240
 Lys Ile Asp Glu Ile Leu Glu His Val Val Asn Glu His Lys Gln Asn
 245 250 255
 Arg Ala Asp Gly Gln Lys Gly Asn Gly Glu Phe Gly Gly Glu Asp Leu
 260 265 270
 Ile Asp Val Leu Leu Arg Val Arg Glu Ser Gly Glu Val Gln Ile Ser
 275 280 285
 Ile Thr Asp Asp Asn Ile Lys Ser Ile Leu Val Asp Met Phe Ser Ala
 290 295 300
 Gly Ser Glu Thr Ser Ser Thr Thr Ile Ile Trp Ala Leu Ala Glu Met
 305 310 315 320
 Met Lys Lys Pro Ser Val Leu Ala Lys Ala Gln Ala Glu Val Arg Gln
 325 330 335
 Val Leu Lys Glu Lys Lys Gly Phe Gln Gln Ile Asp Leu Asp Glu Leu
 340 345 350
 Lys Tyr Leu Lys Leu Val Ile Lys Glu Thr Leu Arg Met His Pro Pro
 355 360 365
 Ile Pro Leu Leu Val Pro Arg Glu Cys Met Lys Asp Thr Lys Ile Asp
 370 375 380
 Gly Tyr Asn Ile Pro Phe Lys Thr Arg Val Ile Val Asn Ala Trp Ala
 385 390 395 400
 Ile Gly Arg Asp Pro Glu Ser Trp Asp Asp Pro Glu Ser Phe Ser Pro
 405 410 415
 Glu Arg Phe Glu Asn Ser Ser Val Asp Phe Leu Gly Ser His His Gln

420	425	430
Phe Ile Pro Phe Gly Ala Gly Arg Arg Ile Cys Pro Gly Met Leu Phe		
435	440	445
Gly Leu Ala Asn Val Gly Gln Pro Leu Ala Gln Leu Leu Tyr His Phe		
450	455	460
Asp Arg Lys Leu Pro Asn Gly Gln Ser His Glu Asn Leu Asp Met Thr		
465	470	475
Glu Ser Pro Gly Ile Ser Ala Thr Arg Lys Asp Asp Leu Val Leu Ile		
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